

Entry 4 of 8

File: USPT

Feb 4, 1997

DOCUMENT-IDENTIFIER: US 5599231 A

TITLE: Security systems and methods for a videographics and authentication game/program fabricating device

ABPL:

A videographics/video game fabricating system includes a multiprocessor based game processor console which includes a main central processing unit (CPU) which controls editing operations and operating system task execution and a game CPU for executing the model video game which is loaded into a pluggable RAM cartridge. The model video game provides a starting point from which a user can readily create an original video game including desired aspects of the model software. The system includes security features to prevent unauthorized use and copying of proprietary data and program software files. The security features include a unique ID card for insertion into the system console having stored ID DATA corresponding to matching ID DATA associated with certain files stored on floppy disks. In addition, the ID card and a game cartridge may include customized security circuits that authenticate one another.

BSPR:

The system employs a dual security system in that a personal identification card (<u>ID card</u>) and a game cartridge both have embedded security custom integrated circuits (CICs) that work in cooperation with the model game software or user created software to permit game play and/or game authoring. The <u>ID card</u> is a personalized card having a CIC and a memory storing a unique identification data corresponding to a single authorized user and user configuration data (config.sys), such as mouse speed, mouse button double click interval, interval for keyboard key repeat and English/Japanese mode, for the <u>operating system</u> executed by the main CPU. The identification data in the <u>ID card</u> is compared by the main CPU to identification data stored on the floppy-disk containing the model game software program. If the comparison of identification data shows that the <u>ID card</u> corresponds to the floppy-disk, then the main CPU allows the user to activate, e.g., log-on, the personal computer functions (main CPU) of the game processor. To actually play a video game requires that the video game portion of the game processor (game CPU) be activated by confirming that an authorized game cartridge is inserted in the console.

DEPR:

If the comparison of authentication codes in the <u>ID Card</u> and <u>ID DATA</u> on the floppy disk results in a determination of authenticity, then data and programs from the floppy disk 8 may be successfully transferred to RAM cassette 4. Although floppy disk 8 contents may be copied to cassettes and other floppy disks, the user is only issued one <u>ID card</u> 6 to thereby provide a measure of security against counterfeiters. The <u>ID card</u> 6 may also contain the user's photograph and/or other identification data, such as identification data. In addition, the <u>ID card</u> may contain user configuration information, such as data regarding mouse speed, mouse button double click interval, interval for repeating keyboard button inputs, and English/Japanese mode, that can be used to set the operating system, such as the config.sys file, for the user authorized by the <u>ID</u> card.

DEPR:

FIG. 1B is a perspective view of the game processor system console unit 2. The console 2 includes a power ON/OFF switch 11 and a reset button 9. The reset

switch 9 permits resetting the entire system including the operating system executing CPU and the game CPU. The reset button 9 in addition to placing the game program executing CPU at a known initial state also serves to interrupt the operating system CPU to permit, for example, testing operations to be performed. As shown in FIGS. 1A and 1B receptacles 5 and 7 are slots for receiving the game processor ID card 6 and the floppy disk 8, respectively. Both receptacles 5 and 7 have associated recessed areas to permit a user to easily grab and extract the respective ID card 6 or floppy disk 8. As shown in FIG. 1B, the console unit also includes a floppy disk eject button 3. Additionally, as shown in FIGS. 1A and 1B, connectors 13, 17, 19, 21 and 23 are exposed to permit ready connection of microphone 10, keyboard 18, mouse 16, controller 12 and controller 14, respectively.

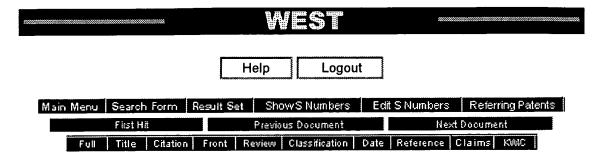
DEPR:

The IPL software is responsible for initial program loading such that when the system is booted up it checks the game processor system status and boots up the BIOS in the operating system routines. The initial program loading (IPL) routine is executed upon system start-up and initially results in the display of the start-up message, including a copyright notice. Thereafter, the IPL performs an ID code check in which a cyclic redundancy code (CRC) in the membership ID card is checked. If a determination is made that the ID card is authorized, the system is booted up. If the ID check reveals that the ID is unauthorized, a display is generated indicating a lack of authorization. If the ID code check passes to permit the system to be booted up, a hardware status check is made. The hardware status check determines the size of the RAM of the current system configuration and checks to make sure the connected RAM is readable and writable. Thereafter, checks are made to confirm that the floppy disk driver, modem, printer, hard disk and other devices within the control unit and expansion unit are appropriately connected. If all hardware status checks do not confirm proper connection, an appropriate display is generated to indicate a system fault.

The operating system includes a kernel portion which interprets commands, manages memory, reads in transient operating system portions and starts up command routines. The kernel reads the "config.sys" file, which records such things as the set up of peripheral drivers and unpacks the transient operating system, transient BIOS, peripheral drivers, etc. on to memory and manages them. The config.sys file may be tailor to individual users by importing data from the user ID card in step 412. A command routine portion of the operating system includes subroutines that perform actual operations based on instructions from the kernel and the peripheral driver section of the operating system includes subroutines that handle access to the various peripherals as described above.

DEPL:

Exemplary file types may include an operating system, (designated by for example "0000" in the "File Type" field), application software (designated by for example "0001"), model game program software ("1000") and user data ("1001"). The ID DATA field may be used to specify an identification data corresponding to the data/program and such identification data may be used in conjunction with an authentication program that limits access to the data/program only to users having an ID card that contains ID DATA matching the ID DATA stored on the floppy disk. Examples of ID DATA stored on the floppy disk include: normal ID data associated with a model game program and corresponds to the unique user ID DATA stored on one ID Card (such data may be in the form of "0000 XXXX XXXX" where 0000 designates the ID DATA as being normal ID Data and XXXX XXXX is the particular identification data or password unique to the authorized user), new file data (e.g., 0001 XXXX XXXX) and a free ID (such as "1111 XXXX XXXX"). A new file data might correspond to a supplemental identification data for a file just purchased from the market, and, thus, does not yet have the user ID stored with the model program code. For newly-purchased model game files (without a user ID), the new file data is overwritten with the user ID DATA when the new file is first loaded into the user's console. A newly-purchased game (with a new file data) cannot be read until the user ID is written over the new file data. Since the new model game file then has the user ID DATA the file cannot be read, edited or used to create a user game program until the appropriate user ID DATA is invoked. Similarly, a file of a new user game program created by user includes the user ID DATA. In this way, the proprietary rights, including copyrights, of the model game creator, e.g., manufacturer, and the new game creator, e.g., user, are protected by the user ID DATA that is required for copying and editing the model



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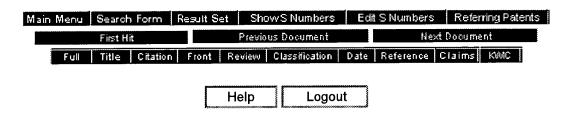
File: USPT

Jun 8, 1999

DOCUMENT-IDENTIFIER: US 5911080 A

TITLE: Computer system whose power supply is controlled by an identification card and a method of supplying power to the computer system

The present invention relates to an apparatus and method for operating a system drive using an identification (<u>ID</u>) card. Particularly, this invention makes use of a registered <u>ID</u> card for protecting the information of the system and reduces power consumption through controlling a power on/off condition of the system.



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Entry 2 of 8

File: USPT

Oct 21, 1997

DOCUMENT-IDENTIFIER: US 5680533 A

TITLE: Videographics program/video game fabricating system and method

DEPR:

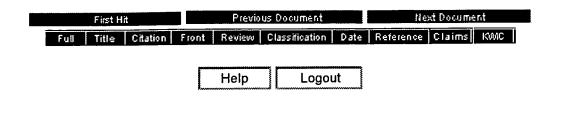
FIG. 1B is a perspective view of the game processor system console unit 2. The console 2 includes a power ON/OFF switch 11 and a reset button 9. The reset switch 9 permits resetting the entire system including the <u>operating system</u> executing CPU and the game CPU. The reset button 9 in addition to placing the game program executing CPU at a known initial state also serves to interrupt the operating system CPU to permit, for example, testing operations to be performed. As shown in FIGS. 1A and 1B receptacles 5 and 7 are slots for receiving the game processor ID card 6 and the floppy disk 8, respectively. Both receptacles 5 and 7 have associated recessed areas to permit a user to easily grab and extract the respective ID card 6 or floppy disk 8. The floppy disk receiving mechanism is further described in the above identified copending application (Attorney Docket No. 723-312), which application has been incorporated herein by reference. As shown in FIG. 1B, the console unit also includes a floppy disk eject button 3. Additionally, as shown in FIGS. 1A and 1B, connectors 13, 17, 19, 21 and 23 are exposed to permit ready connection of microphone 10, keyboard 18, mouse 16, controller 12 and controller 14, respectively.

The IPL software is responsible for initial program loading such that when the system is booted up it checks the game processor system status and boots up the BIOS in the operating system routines. The initial program loading (IPL) routine is executed upon system start-up and initially results in the display of the start-up message, including a copyright notice as referenced above in conjunction with FIG. 27. Thereafter, the IPL performs an ID code check in which a cyclic redundancy code (CRC) in the membership ID card is checked. If a determination is made that the ID card is authorized, the system is booted up. If the ID check reveals that the ID is unauthorized, a display is generated indicating a lack of authorization. If the ID code check passes to permit the system to be booted up, a hardware status check is made. The hardware status check determines the size of the RAM of the current system configuration and checks to make sure the connected RAM is readable and writable. Thereafter, checks are made to confirm that the floppy disk driver, modem, printer, hard disk and other devices within the control unit and expansion unit are appropriately connected. If all hardware status checks do not confirm proper connection, an appropriate display is generated to indicate a system fault.

DEPR:

The operating system includes a kernel portion which interprets commands, manages memory, reads in transient operating system portions and starts up command routines. The kernel reads in a file called "configuration file" from the ID card, which records such things as the set up of peripheral drivers and unpacks the transient operating system, transient BIOS, peripheral drivers, etc. on to memory and manages them. A command routine portion of the operating system includes subroutines that perform actual operations based on instructions from the kernel and the peripheral driver section of the operating system includes subroutines that handle access to the various peripherals as described above.

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File: USPT

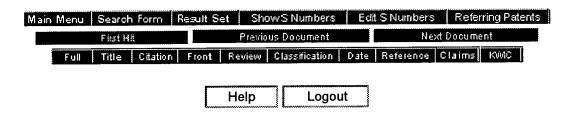
Mar 23, 1999

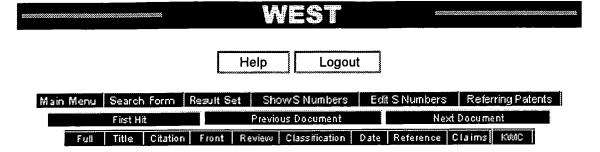
DOCUMENT-IDENTIFIER: US 5887163 A

TITLE: Method and apparatus for providing dual booting capabilities to a computer system

BSPR:

Conventionally, many <u>user's</u> of computer systems desire the ability to use <u>multiple operating systems</u> on their computer system. Such <u>user's</u> normally prefer that the <u>multiple operating system</u> be both installed on the computer system and bootable. With such a configuration, the <u>user</u> simply chooses which of the <u>multiple operating systems</u> to use each time the computer system begins its boot up sequence.





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File: USPT

Sep 1, 1998

DOCUMENT-IDENTIFIER: US 5802363 A

TITLE: Bios dynamic emulation of multiple diskettes from a single media

ABPL:

A personal computer is BIOS configured to boot from an installed CD-ROM storing multiple operating systems in different partitions of the medium. The computer is initially booted from a user selected or default partition emulating a logical drive. With the original boot partition maintained active, emulation of additional partitions as other drives is performed when needed. This is accomplished in BIOS with multiple device tables, each dynamically associated with a logical drive letter. Hence, the system files found in only the original boot partition remain available to the system when other logical drives are called.

DEPR:

There has accordingly been described a BIOS configured to boot from an installed CD-ROM storing multiple operating systems in different partitions of the medium. The computer is initially booted from a user selected or default partition emulating a logical drive. With the original boot partition maintained active, emulation of additional partitions as other drives is performed when needed. This is accomplished in BIOS with multiple device tables, each dynamically associated with a logical drive letter. Hence, the system files found in only the original boot partition remain available to the system when other logical drives are called.

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